

KR Newsletter

ISSUE #24

JUNE 1977



Ever since the EAA fly-in at Chino last month, questions have been pouring in. "How did you get such a smooth finish?" "What kind of paint are you using?" "Why are you selling your KR-2?" Etc, etc.

The last two questions are easy, the paint used is DuPont "Centari" acrylic auto enamel. It's great! Reason for selling? To finance another project of course. I'm going to finish my KR-1 and maybe get on to a KR-3. The smooth finish.....that will take a little more space to describe but it is important, so here goes.

Just as in any other phase of construction the end product will reflect the amount of time and effort that went into the very first steps, in this case, shaping and sanding the foam. Foam is so easy to work most builders have a tendency to sand more than is needed. What happens then is one (or all) of three things. One, the foam becomes too thin and will sag when the Dynel/epoxy skin is applied. Two, the wood spars do not sand as readily as the foam so, unless care is used, the spars will leave a ridge that cannot be safely sanded flat. Sanding thru the skin along a spar is inviting disaster. Three, the amount of filler needed to smooth out an uneven surface adds unwanted weight.

Time now for a few positive thoughts, don't want to get you discouraged. The foam is easiest to sand when it is securely in place. (Loose foam sections make for a very bumpy surface.) Two of the best ways to hold the foam in place is by the use of epoxy or liquid foam, check your back Newsletter for details.

Now then, we have the foam under control, let's get on to the skin. Whether you use Dynel, fiberglass, Sharkskin, or whatever, a basic rule is going to apply. Cover as much area with one piece as is possible, fewer laps mean a smoother surface. This is where Dynel shines, I've yet to see any other fabric get in corners and around curves as well. This is important when you're ready to start sanding. One disadvantage of Dynel is the fact that you must use an epoxy that will not become too brittle. The epoxies necessary to let Dynel reach its full capability does not provide a good finishing surface. Answer to this problem is a good primer. One such is Feather-fil, not only is it a primer, it will also serve as a filler for the many pin holes that always seem to show up. I use Feather-fil as the first step in a two stage finish sanding operation. First the Feather-fil is sanded then a coat of regular primer is applied and sanded. This last primer should be compatible with whatever type paint you plan to use. Several sources recommend using a primer that has carbon black added as a deterrent to possible damage from UV rays emitted from the sun. I'm sure much research went into this, so it would seem reasonable to follow the advice.

Some epoxies will lose rigidity when heated, they will, in fact, become quite soft. The heat from direct sunlight on a dark surface is sufficient to generate enough heat to cause this problem so, take one more tip from the experts, paint it white.

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When I started writing this newsletter 2 years ago my KR-1 was about 50% complete. Now, after deciding on the final configuration, it's closer to 40% complete. Must be doing something wrong!?! Not really, in the last 2 years I have had the opportunity & pleasure to compare ideas with hundreds of KR builders. Modifications made (or that will be made) to the -1 is the reason for the decline in progress. Nothing major, just a lot of minor things. Watch future Newsletters for progress.

BUY SELL TRADE

FOR SALE...KR-2 project at material cost. Fuselage 95% complete. Spar material, Mahogany and Spruce. Also kits #5, 6 & 8. E.J. Dyke, 1010 - 10th, Gothenburg, NE 69138. Phone-803-537-3530 eves.

FOR SALE...Control stick assembly for KR-2, \$20.00 plus postage. Send for photos of assembly installed. Francis Brooks, 9542 - 134th Way North, Seminole, FL 33542 or phone 813-596-6217.

FOR SALE...KR-2 project. Basic fuselage complete, wing spars complete & installed. Landing gear 90% complete and installed. All wood to finish empennage and ailerons. \$900.00...Bruce Gray, 356 Lafayette Dr., Oxnard, CA 93030. Phone (nights) 805-485-6306 or (days) 483-7044.

Freon operated gear retract & extend. Less than 3¢ cost per cycle. Manual back-up. Send S.A.S.E. for details. Kits available. Paul Pryor, P.O. Box 435, Mayaguez, Puerto Rico 00708.

KR-2 jacket patch--\$1.80 postage paid or \$1.65 with a SASE. Cock-pit interiors for KR-1 and 2. Darwin E. Roach, 1158 Wanda Dr., Granite City, IL 62040.

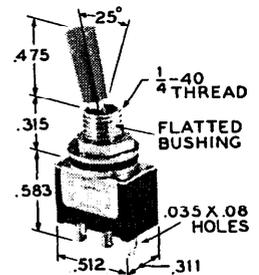
Complete plans for an inward folding landing gear system...\$10.00. 90° Magneto drive, lets you bolt a Magneto in the distributor hole...\$75.00. Glenn Ware, 223 B E. 23rd, Costa Mesa, CA 92627. Phone 714-642-5162.

Editor's NoteI was able to get a close look at Glenn's landing gear as installed on his Teenie Two. A well-thought out system. Looks like a natural for KR's.

FOR SALE...KR-1 kits. New plans, work table. All parts to build a KR-1 less engine, prop & instruments...\$1150.00. Mac McCraw, 825 N. Janss, Anaheim, CA 92805 or Phone 714-991-6057.

Ready for that final touch? Pinstriping, lettering, & numbers for aircraft, autos, etc. by Ed "Big Daddy" Roth. Write or call Ed Roth, 14245 San Feliciano, La Mirada, CA Phone (714) 523-8676.

TIPS FROM OTHER BUILDERS...Want to save space on your instrument panel? Try these switches, they're compact & durable. Good for 50,000 operations. Each pole rated 6 amps @ 28V which makes for 9 amps @ 12V. A typical switch is pictured here but many types are available. For more info write to Cutter-Hammer, Specialty Products Div., 4201 North 27th St., Milwaukee, WI 53216.....Bror Faber.



I have come up with a gear retract system for KR-1 & 2 which retracts or extends at the touch of a button. The system uses freon gas as a power source & will give over 60 cycles per one lb can of freon. The only change made to the present parts is the fabrication of a new gear handle. You still have the manual system as a back-up in case of pressure loss. The cost works out to less than 3 cents per cycle for the freon. The overall weight increase is less than 3 lbs. A SASE will bring complete details.... Paul Pryor, P.O. Box 435, Mayaguez, Puerto Rico 00708.

The wing attach bolts on our KR's are sometimes a real hassle to reach. Now things are looking up, some new wrenches are hitting the market that appear to have our problem well in hand. One I like best is called "Tite-Sqez" which is actually a complete tool kit, the heart of which is a squeeze action ratchet. Cost is in the \$20.00 range and well worth it. You get the 9/16" master ratchet, 5 inserts, 1/4" thru 1/2", 4 screwdriver tips (2 Phillips), 6 allen wrenches, 5 metric inserts, 9mm to 14mm and a 3/8" socket drive attachment. All this comes in a box moulded to fit each piece. For more info send a SASE to A. Lipp, 3640 Sepulveda Blvd, #217, Los Angeles, CA 90034. Tell him you read about it in the KR Newsletter.

Charlie Wells gear latch system was a big hit in a past Newsletter. I've talked with a couple of builders who feel it's the "only" way to go". John Galecic, P.O. Box 67 Hookstown, PA 15050 has adapted a hand operated brake to Charlie's mod and will send pics and drawings to anyone interested. Send \$1.00 to cover cost of pics, printing & mailing.

From Murray Rouse, 12579 Laurel, Lakeside, CA 92040....Now that the actual building of my KR-2 is over and to date have enjoyed over 30 hrs of flight, I guess fellow builders might want to know my impressions.

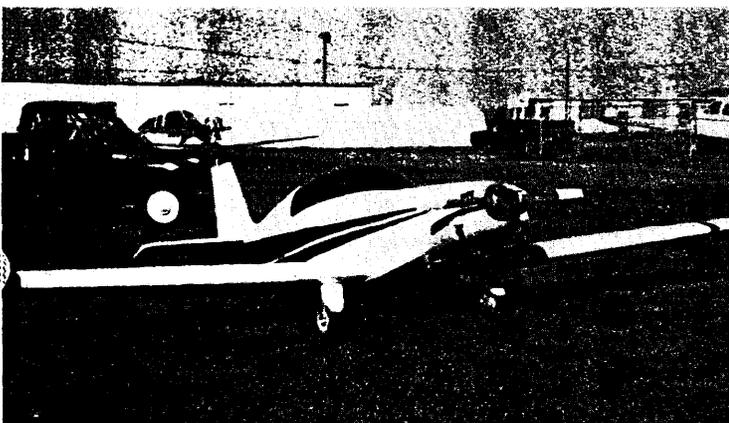
To start in the beginning, building and flying my own airplane has been an ambition of mine for fifteen years. Most of the popular plans were studied and I jumped around from one potential project to the other but all seemed to possess some compromises, either in performance, cost, or cost to operate. Until Ken Rand that is! The airplane was right and refreshingly, the cost of plans and materials were realistic.

Well, fifteen months later I rolled a completed KR-2 out of my garage. For the benefit of those who are still building I would like to say a few things about this phase. I've observed a few KR's for a couple years that seem to progress very slowly. Understandably, different people work at different speeds but in almost every case, these builders can't seem to accept the airplane like it is. Modifications require lots of time and I can tell you after flying my ship that these tiny airplanes need no modifications but are very strong, docile and well performing as designed. So, stick to the plans get it done and enjoy. Take this from a builder who has seen both sides, carefully consider all things, including weight before proceeding with changes.

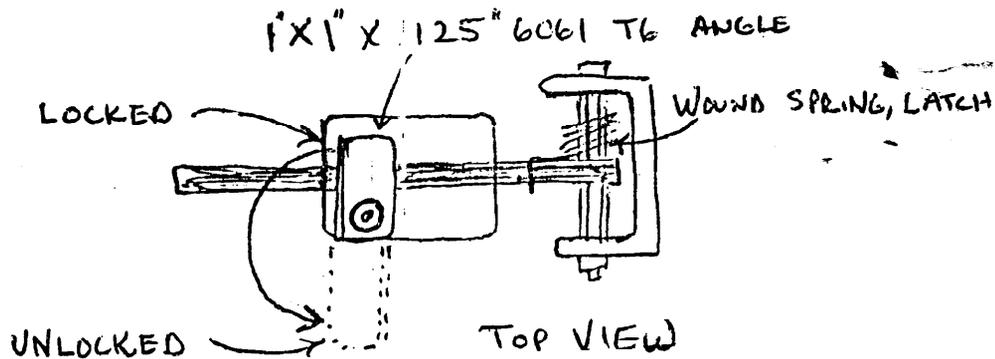
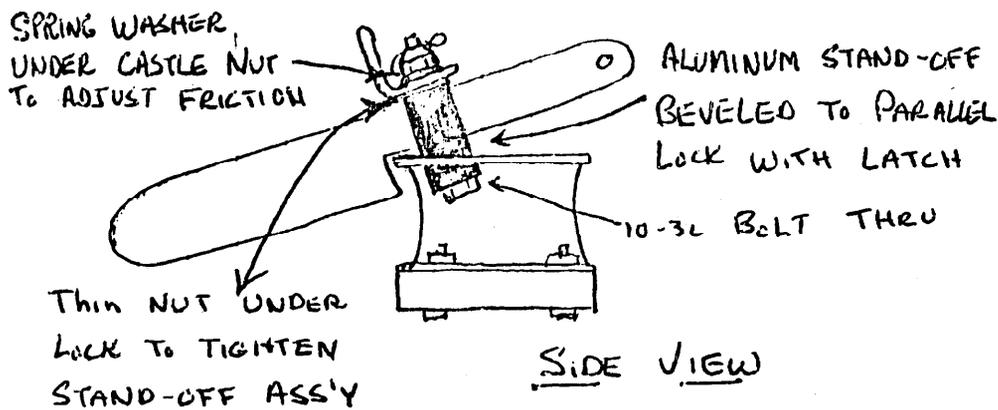
Now, of more interest I'm sure, how does it fly? Let me first mention that I'm a low time private pilot with experience in only three different planes, mostly taildragger time. This was probably quite valuable. The ground handling seems 'normal' whatever that means, it just seems natural. Even the simple (dumb was my first impression) hand 'pull on the cable' brakes seem perfect, offering plenty of stop power without too much risk of standing it on the nose. Forward visibility is quite limited in three point, slight S turns take care of that. For first flight (using suitable airport) you'll help yourself a lot by feeding in throttle slowly being sure of total control before advancing more power. Suddenly you'll be flying, all the time carrying somewhat a neutral stick, and expect plenty of results when control inputs are made. Go easy, keep your speed up and you'll find within minutes an airplane very delightful to fly and responsive to touch. In the air it again seems 'normal' with no hidden tricks. Now the most important flight you'll ever make must end with a safe landing so let's not let the speed drop off too much. Even close to stall all controls are fully effective so don't get a sense of false security. If its sinking fast, you're slow. Don't feel committed to a landing without a decent approach. Keep your elevator inputs to gradual nudges, the ship will float when down close and finally break through ground effect without the pilot having to do much but just 'hold it barely off'. If you do this it will land itself. You may need quick rudder corrections but nudge, don't shove. It's easy as taildraggers go. If a ground-loop seems to be developing, get that throttle in and go around, it'll be in the air immediately. Avoid crosswinds for awhile, work into them gently.

My impressions of flying this may seem quite elementary to some but to those who "wonder" about what kind a monster they're working on I hope I've left you feeling the need for caution, not fear. Make very sure everything is right...airplane, fuel, weather and pilot. If you can find another KR pilot or test pilot experienced in light homebuilts do it!

To date, my figures on performance are only approx. but seem to be about like this...stall-under 50, cruise-150, top around 165, climb-900+ depending on fuel load. My KR-2 has the Revmaster 2100, uses about 4 $\frac{1}{4}$ GPH, has full electric with starter, alternator, radio, omni, wing tanks, total fuel cap. 25 gal. EW-570 lbs. Probably the heaviest one so far. In summary, I like my little airplane very much, even more than I'd hoped for. I've also found all the people at R/R to be very honest and responsive to their builders. You just can't do better. As time allows I'll share a few building hints as I found many in this Newsletter helpful.



SAFETY LATCH



On more than one occasion, the latches have failed to hold (stay down) on the KR's. Well when it happened to my ship (damage was minor) a fellow builder and I decided to do something and came up with this. It's simple, light, and can be made in an evening. I think you owe that much time to your prop and cowl. This not only holds one lever down, it makes sure it's completely down to start with..... Murray Rouse and Butch Grafton.

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